

**Now available . . .**

## **The most comprehensive handbook on electronic amplification ever published**

Ask yourself one question--"How much time and effort could I save if I had fast access to the mass of current information on amplifiers?"

Regardless of your answer, you probably could save much more than you realize. And you can effect these savings with a newly published handbook that puts every key aspect of electronic amplification as close as your fingertips.

This immense volume gives you all the information you need on amplifier fundamentals, amplifying devices, and amplifier circuits to help you solve everyday amplification problems. You'll find yourself reaching for this unprecedented handbook again and again for some specific equation or fact, as well as for a clear-cut description of a concept, method, or design procedure.



Just Published

AMPLIFIER HANDBOOK

Richard F. Shea, Editor-in-Chief

The thorough coverage of the entire subject, coupled with the fact that amplifiers are used in every phase of electronics, makes this handbook a virtual encyclopedia of electronic applications. It treats every important amplifying device and the circuits that incorporate them to make the job at hand easier to do. It even goes so far as to present some forms which are not strictly electronic in the common usage of the term.

This wealth of indispensable data has been assembled by outstanding experts in the field. It reflects the results of their extensive experience, plus additional material gathered from widely scattered sources.

Practicing engineers, scientists, and technicians will soon make this handbook a standard reference on amplifying techniques, as well as for specific circuits to fill a wide range of applica-

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tions. Perhaps even more important, it gives ample material to permit the design of circuits other than those presented to fit individual needs.

#### Unlike Any Electronic Handbook You Have Ever Used

Definitive in its approach, this handbook is divided into three major sections covering: (1) fundamentals; (2) devices; and (3) circuits. The first section lays a foundation for the next two by giving you a concise treatment of basic network principles with particular emphasis on amplifier design and theory. Here you will find this complex subject described in a way that highlights the essentials and presents them in an easy-to-follow form.

The second section covers all important forms of amplifying devices including tubes, magnetic devices, ceramic devices, transistors, and other semiconductor devices, along with such highly specialized devices as masers, lasers, and ionic amplifiers. Each is presented with adequate details to show you its construction and characteristics.

By far the largest in the book, the third section is devoted to specific categories of amplifying circuits. It gives designs extending from one end of the frequency and power spectrums to the other. It treats virtually every form of amplifier and it employs all of the devices described in the previous section. Wherever practical, the design is generalized so that variations are possible by extensions of the values given.

Included, too, are a number of circuits which are normally used in conjunction with, or incorporated within, amplifiers. Typical of these are analog circuits such as summers, multipliers, and dividers, as well as various nonlinear circuits such as compressors, expanders, and the like.

#### Gives You In-depth Coverage of All Important Areas

The scope of this handbook is truly enormous, for it provides authoritative coverage ranging from direct current to gigacycles and angstroms--from picowatts to megawatts--from electrons to magnetrons. It treats gases, solids, and liquids--conductors, semiconductors, insulators, and dielectrics. Emphasis throughout is on practical application, with theory and mathematics held to the necessary minimum to increase its useability.

Covering almost 1500 pages, this comprehensive volume contains a profusion of reference material including



tables, specifications, and similar data compiled from a multitude of sources to help you locate desired information quickly and easily. Over 1500 illustrations further clarify every important principle and procedure.

To give you an idea of how thoroughly each subject is treated, the major topics under Microwave Amplifiers in the Circuits Section include Functions of Microwave Amplifier Complexes--Characteristics of Microwave Amplifier Complexes--Typical Microwave Amplifier Complexes--Power-amplifier Tubes and Their Assemblies--Oscillators--Frequency Translators--Frequency Multipliers--Transmission-line Elements--Power Supplies--Modulators and Pulsers--Protective Equipment--Monitoring Equipment--Control Equipment--plus 63 subtopics.

In short, almost 900 topics provide down-to-earth guidance to every key aspect of electronic amplification in one single source. But a brief letter such as this can't possibly give you an accurate picture of the handbook's immense scope and usefulness. That's why you are invited to...

Examine This Handbook for 10 Days...Without Obligation

Send no money. Simply fill in and return the enclosed post-paid Free Examination Card and a copy of Shea's AMPLIFIER HANDBOOK will be sent to you for your critical inspection. It's as easy as that--there's no need to make out a check or search for a stamp.

Look it over at your leisure for 10 full days. Check the coverage of devices and circuits that particularly interest you. Best of all, use the handbook to solve a specific problem facing you right now.

In 10 days, if you decide the book provides the kind of information that's valuable to you in your work, kindly send your remittance. Otherwise, return it with no questions asked.

There's no obligation of any kind--no strings attached, no salesman will call. So I urge you to mail the card now, while you still have it right at hand.

Sincerely,



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EB:rw

**How to solve  
amplification problems  
quickly and easily**

# **AMPLIFIER HANDBOOK**

**RICHARD F. SHEA**, Editor-in-Chief *Consulting Electronics Engineer*

**1496 pages, 6 x 9, 1639 illustrations and tables, \$37.50**

**Terms available: \$10.50 in 10 days, then \$9.00 a month for 3 months**

**29 outstanding contributors make this handbook  
an invaluable addition to your technical library**

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# One massive handbook...

- ***Puts every important aspect of amplifiers within easy reach***
- ***Gives you a wealth of data on amplifier fundamentals... amplifying devices ...and amplifier circuits***
- ***Saves you time and trouble by making the job at hand easier to do***





**D**AY-IN AND DAY-OUT you'll find yourself turning to this remarkable reference not only for some particular fact or equation, but for a crystal-clear explanation of a concept, method, or design procedure. Here in this one-of-a-kind volume is all the information you need on amplifiers to help you perform at peak efficiency.

#### **Gives In-depth Coverage**

Since amplifiers are encountered in every phase of electronics, the thorough treatment of the entire subject makes this handbook a virtual encyclopedia of electronic applications. It gives you an on-the-job working knowledge of every important amplifying device and the circuits incorporating them. What's more, it even covers some forms of amplifiers which are not strictly electronic in the usual sense of the word.

#### **Zeros in on Key Techniques**

The noted authorities who contributed to this handbook have amassed, both from their own extensive experience and from widely scattered sources, a veritable treasure chest of indispensable information on amplifiers. Almost 900 topics give you practical guidance on the ways and means of solving everyday electronic design problems.

#### **Offers Down-to-earth Help**

As a practicing engineer, scientist, or technician, you'll refer to this handbook time-after-time for amplifying techniques, as well as for specific circuits to meet a variety of needs. Equally important, it gives you ample design material in all areas to enable you to design additional circuits to fit your individual requirements.

#### **Covers Basic Network Theory**

Broad in its presentation, yet concise in its treatment of each topic, the handbook is divided into three major sections covering: (1) fundamentals; (2) devices; and (3) circuits. The first section lays the groundwork for the next two by giving you a condensation of basic network principles with particular emphasis on amplifier design and theory. This complex subject is treated in such a way that it highlights the essentials and presents them in an easy-to-understand manner.

#### **Describes Scores of Devices**

The second section treats all important forms of amplifying devices including typical electron tubes, magnetic devices, ceramic devices, transistors and other semiconductor devices, along with such highly specialized devices as masers, lasers, and ionic ampli-

**Examine this handbo**

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#### About the Editor-in-Chief . . .

RICHARD F. SHEA, a Consulting Electronics Engineer, with vast practical experience in the field was in charge of this monumental work. Affiliated with General Electric Company for 26 years, he was responsible for the development of a line of compact and Musaphonic AM-FM receivers. He also directed the section of GE's Electronics Laboratory responsible for the initial work on semiconductor circuit applications.

Mr. Shea has been particularly concerned with circuit applications of transistors and other solid-state devices; nuclear and process instrumentation; design appraisals; and editorial consultation. He is a Fellow of the Institute of Electrical and Electronics Engineers; Fellow of the Radio Club of America; and a member of the Scientific Research Society of America. He is also the author or editor of several books in the transistor field.

fiers. Moreover, they are presented with adequate details to show you the construction and characteristics of each.

#### Treats a Vast Number of Circuits

The third section, which is the largest in the book, covers specific categories of amplifying circuits. It gives you designs extending from one end of the frequency and power spectrums to the other. It treats virtually every form of amplifier and it employs all of the devices described in the previous section. To help you in your work, the designs are generalized wherever practical so that variations are possible by extensions of the values given. Included, too, are circuits which are normally used in conjunction with, or incorporated within, amplifiers. Typical of these are analog circuits such as summers, multipliers, and dividers, as well as various non-

linear circuits such as compressors, expanders, and the like.

#### Presents a Wide-angled Picture

Immense in its scope, this handbook gives you timely coverage ranging from direct current to gigacycles and angstroms—from picowatts to megawatts—from electrons to magnetrons. It treats gases, solids, and liquids—conductors, semiconductors, insulators, and dielectrics. Containing almost 1500 pages, it offers a profusion of reference material including charts, specifications, and similar data compiled from a multitude of sources to help you locate desired information quickly and easily. Over 1600 detailed illustrations and tables further clarify every important principle and procedure. Emphasis throughout is on practical application, with theory and mathematics held to the necessary minimum to increase its usability.

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